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EXAMINER

BUSHEY, CHARLES S

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/780,243
Filing Date: February 17, 2004
Appellant(s): KEHRER, FLORIAN

MAILED
APR 25 2007
GROUP 1700

Francis C. Hand
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 12, 2007 appealing from the Office action mailed October 18, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 4, 5, 8, 10, 15-17, and 20 stand rejected under 35 U.S.C. 102(b) as being clearly anticipated by Acker et al (Figs. 1 and 7; col. 1, lines 9-10; col. 4, lines 3-26).

Appellant should note that Acker et al clearly discloses one or more channels (44) having apertures (46) for the outflow of a plurality of liquid streams. Below the channels are guide means (52 in Fig. 7), which pass through gutter means (14) having a tapering region and a gap, which throttles liquid flow through the distributor. The guide means includes spaced apart drip points at the lower edge thereof (see Fig. 7), which uniformly distribute liquid that gathers within the gutter to provide a hydrodynamic balance. Note col. 4, lines 15-20.

Claims 2, 6, 7, 13, and 18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Acker et al.

Acker et al, as applied above substantially disclose appellant's invention as recited by instant claims 2, 6, 7, 13, and 18, except for the parallel arrangement of the channels and gutters, as recited by claims 2 and 18; the guide means mesh structures, as recited by instant claims 6 and 7; and the aperture spacing and flow rates as recited by instant claim 13. The reference does disclose a plurality of useable guide means materials (see Figs. 2, 3, 6, and 7), including the grate structure (50), which at least approximates appellant's claimed mesh structures. The reference also discloses (at col. 4, lines 21-26) that the channels and gutter means may have a plurality of configurations that would be well understood by one having ordinary skill in the art. Lastly, spacing of the liquid outlet apertures, as well as the liquid flow rates through the

apparatus would have been dictated by the overall diameter and height of the contact column, as well as the process being practiced with the apparatus and the materials worked on by the apparatus, and thus such would have been an obvious expedient that would have been well within the expected knowledge base of one having ordinary skill within the art. It would have been obvious for an artisan at the time of the invention, to orient the channels and gutters of Acker et al into a parallel relationship, if such were desired, since the modification from a perpendicular relationship would not materially effect the operation of the apparatus, in view of the uniform distribution capabilities of the guide means, as taught by Acker et al. Further, in view of the multiple useable materials for the guide means, as taught by Acker et al, it would have been obvious for an artisan at the time of the invention, to substitute a mesh structure of any known mesh size for the porous material, as taught by figure 7 of the reference, since such would allow for the use of the reference apparatus with a liquid having a viscosity that would be too great for use with the porous plastic material.

(10) Response to Argument

Appellant's arguments are addressed herein in the order that they are presented in the Appeal Brief. It is noted that the Acker et al reference discloses three distinct embodiments of their invention. Making reference to the drawings of the reference, Figure 1 is a general view of the overall teaching of the reference, wherein tubes (44) having longitudinally spaced apertures (46) correspond to appellant's apertured liquid channels. Figure 1 also illustrates a general representation of gutter means (14), which in combination with a liquid spreading means (34 or 50 or 52) therein provide uniform

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distribution of the liquid to the underlying contact structural packing (12). Figures 4 and 5 of the reference indicate how the gutter means is operably associated with the underlying packing. Figures 2 and 3 illustrate a first embodiment of the gutter and liquid spreading means of the reference. Figure 6 illustrates a second embodiment of the gutter and liquid spreading means of the reference. And Figure 7 illustrates a third embodiment of the gutter and liquid spreading means of the reference. *As has been the case throughout prosecution of the instant application, the Examiner is relying upon the general teaching of Figure 1 of the reference and the specific teaching of the third embodiment, as illustrated by Figure 7 of the reference.* While much of appellant's arguments have, previously and again in the Appeal Brief, been directed to the embodiments of Figures 2, 3, and 6, such are not particularly persuasive since those embodiments teach structures that clearly do not teach an areal guide means that passes through and thus below the gutter structure. As such argument's that are directed to the unapplied embodiments of the reference (Figs. 2, 3, and 6) will not be specifically addressed below, but instead only those arguments that are relevant to the issues at hand have been given full and complete consideration.

Regarding appellant's position that the gutter means (14) does not have a throttle means, such is not persuasive. Clearly the oblique walls of the gutter (14) taper inwardly toward one another leaving a smaller flow gap than the vertical sidewalls of the gutter, thus providing the claimed throttle means. With regard to the position that the tapered walls of the gutter do not provide a throttle means, since the porous plastic material (52 in Fig. 7) hinders flow and thus throttles the liquid flow therethrough, clearly

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the fact that the porous material (52) slows the liquid flow does not eliminate the fact that the inwardly angled walls also provide a throttling effect. The combination of the porous material and the angled walls also provide a hydrodynamic balance along the length of the gutter by their throttling of the liquid flow therethrough.

On page 7 of the brief appellant argues that the spaced points of the porous material (52) cannot provide uniform distribution from the gutter as accomplished by appellant's invention. However, appellant also claims spaced drip points (see 26 in elected Figure 2 of the instant application), which must, by the laws of fluid dynamics, perform in the same manner as the spaced drip points of the reference.

Regarding the alleged reliance by the Examiner of inherency within the teachings of Acker et al, such is incorrect. As explained above, the Acker et al reference teaches a structure that operates in the same manner as broadly recited by appellant's instant claims. There is no reliance upon an inherent teaching of the reference. The teachings of the reference provide that liquid will be throttled by the converging gap between the sidewalls of the gutter (14) and that liquid will drip from the spaced drip points of the porous element (52) when applied to the gutter (14) from the orifices (46) of the channels (44).

With respect to the argument that porous guide means (52 in Fig. 7), having spaced, depending drip points at the bottom end thereof, is not an areal guide means, since according to appellant "areal" is defined as "pertaining to an area", the Examiner questions how any of the surfaces of the element (52) may exist without presenting an "area"?

Regarding the argument, on page 8 of the brief, directed to the lack of drip edges being taught by the reference, such is addressed just two paragraphs above. It is noted that whether or not the liquid leaves the porous element (52) of Acker et al in the form of drops would depend upon the volume of liquid passed through the device, not the device itself. Clearly, the Acker et al reference would operate as desired in a flow regime wherein the liquid left the tips of the drip points in drops.

Regarding appellant's arguments directed to the alleged incorrect showing of Figure 7 of the Acker et al reference, to state that the embodiment of Figure 7 of the reference must include features that it clearly does not, cannot be a basis for a persuasive argument against the application of the reference to the pending claims. There is simply no teaching or suggestion of the metal spacer elements (26) existing in combination with the apex portions of the porous element (52) of Fig. 7 of the reference. Further, appellant's argument that the device of Fig. 7 of the reference would be inoperable without the metal spacers (26) applied over the porous apices of element (52) of the reference is likewise unpersuasive. On page 4 of the response filed November 27, 2006, the sentence bridging the first two lines of the last full paragraph thereon, appellant's representative states, "Clearly, the embodiment of Fig. 7 has plates 40 that form evaporative cooling channels as in Fig. 4." The Examiner agrees. Close inspection of Fig. 4 of the reference indicates that the lateral edges of spacer elements (26) lie vertically over the inclined portions of the plates (40), thus allowing for all of the liquid dripping from the lateral edges to fall upon the plates, not between them. Further, when the plates (40) and clamping means (36) are placed within the spaces between

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the porous apices of Fig. 7 of the reference, the lateral edges of the apices of the porous element (52) would also be expected to overlie the inclined portions of the plates. Given a fair understanding of fluid dynamics, as would be expected of one having ordinary skill in the art, such a person would recognize that the vast majority of the liquid dripping from the porous apices (52) of the reference, with or without spacer caps (26) lying thereover, the latter situation being that as disclosed by the reference, would drip from the lateral edges of the drip points (apices). Clearly, liquid dripping from such points would fall vertically onto the inclined portions of the plates (40), rather than between them. In summary, Acker et al does not in any way suggest that the embodiment of Fig. 7 of the reference would include the spacer elements (26). The disclosure cited by appellant only suggests that the side walls (22) and oblique wall (24) are the same in the embodiment of Fig. 7. There is no suggestion pertaining to the spacer means (26), and in view of the disclosure of Fig. 7, the spacer elements are clearly not present in the embodiment relied upon by the Examiner. Appellant should note that the reference teaching has not been misconstrued by the Examiner, but instead applied specifically for what is taught thereby.

Regarding the argument directed to claim 4, as stated above, the oblique walls are clearly throttling means within the gutter structure of the reference.

Regarding the argument directed to claim 5, the porous plastic means clearly extends through and below the walls of the gutter (14).

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Regarding the argument directed to claim 2, there is no claim to support means or lack thereof by the appealed claims and thus such cannot serve to patentably distinguish the appealed claims from the reference.

Regarding the arguments directed to claims 6 and 7, "high" and "low" are relative terms, as are "course" and "fine", and as such, they cannot generally define over a structure that presents the claimed element. Clearly, the pores of the porous element (52) will provide for gaps between the element and the walls of the gutter. Furthermore, one having ordinary skill in the art would know to provide larger pores for a higher viscosity material and smaller pores for a lower viscosity material to control the flow rate of the material passing through the liquid distribution device.

It is noted that claims 8, 10, 16, and 20 are to stand or fall with claim 5, claims 13, 15, and 17 are to stand or fall with claim 1, and that claim 18 is to stand or fall with claim 2.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Scott Bushey

 4-24-07

Primary Examiner, Art Unit 1724

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